Wales Centre for Public Policy
Canolfan Polisi Cyhoeddus Cymru

# The implications of the European transition for key Welsh economic sectors

**Craig Johnson, Jack Price and Helen Tilley**

December 2020

# Our Mission

The Wales Centre for Public Policy helps to improve policy making and public services by supporting ministers and public service leaders to access and apply rigorous independent evidence about what works. It works in partnership with leading researchers and policy experts to synthesise and mobilise existing evidence and identify gaps where there is a need to generate new knowledge.

The Centre is independent of government but works closely with policy makers and practitioners to develop fresh thinking about how to address strategic challenges in health and social care, education, housing, the economy and other devolved responsibilities. It:

- Supports Welsh Government Ministers to identify, access and use authoritative evidence and independent expertise that can help inform and improve policy;
- Works with public services to access, generate, evaluate and apply evidence about what works in addressing key economic and societal challenges; and
- Draws on its work with Ministers and public services, to advance understanding of how evidence can inform and improve policy making and public services and contribute to theories of policy making and implementation.

Through secondments, PhD placements and its Research Apprenticeship programme, the Centre also helps to build capacity among researchers to engage in policy relevant research which has impact.

For further information please visit our website at [www.wcpp.org.uk](http://www.wcpp.org.uk)

## Core Funders

**Cardiff University** was founded in 1883. Located in a thriving capital city, Cardiff is an ambitious and innovative university, which is intent on building strong international relationships while demonstrating its commitment to Wales.

**Economic and Social Research Council (ESRC)** is part of UK Research and Innovation, a new organisation that brings together the UK's seven research councils, Innovate UK and Research England to maximise the contribution of each council and create the best environment for research and innovation to flourish.

**Welsh Government** is the devolved government of Wales, responsible for key areas of public life, including health, education, local government, and the environment.

# Contents

# Summary


- This report analyses the implications of the European transition for the Welsh economy's key trading sectors.
- The Welsh Government's priority is a trade agreement which minimises barriers. However, trading between the EU and Wales will undoubtedly become more burdensome.
- Non-tariff barriers are expected to have a substantial impact. These will be more problematic for businesses producing fresh produce or goods comprising different components.
- Declining investment is a concern for most sectors, and particularly for those predominantly made up of SMEs and which have benefitted from EU funding in the past, such as agriculture and tourism.
- Agreements with non-EU nations present some opportunities. For example, easier access to the US market could help Welsh firms, alongside the well-publicised threats.
- The Welsh Government have repeatedly called for common frameworks across the UK to manage potential regulatory divergence between the four nations, which have now been given a statutory basis in the UK Internal Market Bill. The implementation of these frameworks will be important for devolution.
- We recommend that the Welsh Government:
    - Guide businesses in the application of new regulations.
    - Encourage reskilling and employment in customs intermediaries, digital infrastructure, logistical and business support to meet increased demand.
    - Continue to seek a beneficial mutual recognition framework – covering qualifications and conformity assessment procedures - as part of any free trade agreement.
    - Maintain emergency funding for sectors affected by border delays.
    - Map how trade flows will change due to the Northern Ireland protocol.
    - Encourage collaboration between sectors with synergistic interests, such as agriculture and tourism.
    - Encourage investment in R&D in sectors reliant on innovation.
    - Target state aid to increase the competitiveness of sectors and strengthen existing procurement strategies to promote the use of Welsh goods and services.

# Introduction

The European Union (EU) is the most economically valuable international trading partner for Wales and the UK, accounting for 43% and 52% of total UK exports and imports respectively in 2019 (ONS, 2020). Following its exit from the EU, the UK Government has started to negotiate free trade agreements with the EU and with other countries around the world including the United States, Australia, Japan and New Zealand.

The negotiations and their outcomes will have a profound impact on the Welsh economy, as a whole and individually for key sectors. The Counsel General and Minister for European Transition is keen to understand how the Welsh economy's key sectors are likely to be affected by the changes and how this should inform the Welsh Government's discussions with the UK Government. This report presents evidence from a review of the literature, interviews with sectoral bodies and associations from across Wales, and a roundtable discussion with experts.

The text represents the situation at the time of publication in reference to key legislation, the Northern Ireland Protocol and the UK-EU trade agreement. However, interviews were conducted with the key sectors between August and October 2020, so do not reflect developments since then.

# Context

The UK is negotiating its own free trade agreements for the first time in over fifty years. Modern trade agreements have similarities to earlier ones, but the more globalised nature of producers, suppliers and consumers mean that regulatory barriers, confidence and certainty are as important if not more important than tariffs.

The Welsh Government (2019a) has stated that its main priority is for the UK Government to negotiate a comprehensive free trade agreement with the EU which has no tariffs and which minimises barriers to trade. It also supports attempts to negotiate free trade agreements with other countries. However, it is concerned that they may dilute environmental and labour standards, and argues they will be insufficient to compensate for trade lost to the Welsh economy due to leaving the EU. The Welsh Government (2020) has set out in correspondence to the UK Government the need to minimise divergence in standards with the EU.

Since the referendum result in 2016, the UK Government has faced a trade-off between access to the single market and regulatory restrictions. Owen, Stojanovic and Rutter (2017: 47) argued that eventually the UK will have to make a ‘fundamental choice’ between staying as close as possible to the EU’s regulatory model, or choosing an independent trade policy which grants it greater freedoms but losing access to the EU market on favourable terms. Throughout the negotiations, the Welsh Government has preferred the former, while the UK Government has shifted from alignment to non-alignment over time. Irrespective of the eventual outcome, it is clear that trading between the EU and Wales, England and Scotland will become more burdensome. The withdrawal agreement’s Northern Ireland protocol means that Northern Ireland will benefit from a closer trading relationship with the EU than Great Britain, although it may also create new barriers to imports into Northern Ireland from the rest of the UK in the longer term.

> **The UK’s desire for full control over domestic regulation and trade policy significantly limits the potential scope of the EU-UK relationship. At best, the EU and UK are on course to conclude a free trade agreement that removes all tariffs and quotas, but creates significant new administrative and regulatory barriers to trade in both goods and services** (Lowe, 2020: 1).

While much of the focus in legislative discussions and the media has been on the consequences of the negotiations for the UK as a whole, key concerns for Wales are the implications for the Welsh economy and its key sectors. It is very difficult to model the impacts of free trade agreements; and predicting the different outcomes of a UK-EU deal depends on the nature of the agreement. Current modelling exercises undertaken by the UK Government (2020) suggest that there will be marginal gains in GVA from trade deals with non-EU countries, although these numbers should be seen as indicative and treated with caution.[1] Modelling by Grant Thornton (2020) for the Welsh Local Government Association estimates that there could be a 6 per cent fall in annual exports in a scenario with a trade deal, and a 19 per cent fall in annual exports if there is no trade deal agreement.

## Non-tariff barriers

If free trade agreements (FTA) are negotiated, many of the effects will be felt in non-tariff terms, particularly for trade with the EU. For instance, there may be agreements on issues such as common frameworks, rules of origin arrangements and enforcement of restrictions.

---

[1] UK Government modelling suggests an increase from 2018 of 0.05%-0.40% in Welsh GVA as a result of a UK-USA trade agreement, a 0.05%-0.15% increase as a result of a UK-Japan agreement, then 0.00%-0.05% for Australia and New Zealand individually.

An agreement could also facilitate co-operation to avoid trade barriers, such as border delays, differences in product standards, and customs arrangements. It could also make progress easier on issues such as mutual recognition of qualifications and conformity assessment procedures. Perhaps more importantly, even if a trade deal fails to be sufficiently comprehensive on its own, it will facilitate easier negotiations on the future relationship from 2021 onwards and would avoid certain tariffs, encourage co-operation and provide a platform for sustainable implementation of the Northern Ireland protocol (Lowe, 2020b).

In order to qualify for tariff-free trade exporters must demonstrate their product meet the rules of origin criteria of the trade agreement. The specific challenge presented by rules of origin has yet to be sufficiently addressed, and is not yet prominent in all sectors' thinking despite the potential scale of its impact. It will particularly affect sectors with long supply chains and those reliant on imported high value components. In the case of long supply chains it can be difficult to demonstrate the origin of each component, although this is less likely to be a problem for goods solely originating in the UK or the EU if the trade agreement allows for bilateral cumulation. It becomes problematic when there are a number of suppliers from outside the UK, for example in the automotive industry where vehicles are made up of many parts from the global market. Where high value components are imported it presents a particular problem, for example the batteries for electric vehicles which can represent over one third of the final value. The UK Government has made various proposals.

Many other issues also remain unclear. These include the certification and labelling of products, data adequacy and storage, and the temporary movement of people for work. The extent to which new rules and regulations such as customs and certification checks, and additional administration and compliance checks for new standards and rules of origin will be rigidly enforced is unclear. On the first day of the new system many businesses may be unintentionally breaking the rules, unaware of the extent of the new requirements. There could however be a period of adjustment to the rules partly to allow businesses to put processes in place and also due to the limited enforcement capacity.

## The UK internal market

Another concern for the Welsh Government is the impact of leaving the EU on the UK internal market. At the end of the transition period, the UK and devolved administrations – with the exception of Northern Ireland - will no longer be bound by EU law and will be free to diverge in policy areas over which they have control, such as environmental regulations and economic development. The concern is that this could create trade barriers between the UK nations. Research by Lydgate et al. (2019) highlighted the potential for trade agreements with other countries to create trade barriers between devolved administrations if they affect legislation in sensitive areas, including food safety and drug pricing.

The UK Government has introduced the Internal Market Bill into the UK Parliament. The Bill as originally proposed worked from the principles of automatic mutual recognition and non-discrimination, with no binding guarantees for minimum standards. Mutual recognition means that goods produced or imported into one part of the UK would automatically be accepted in another. Non-discrimination would mean that neither the UK Government nor the devolved administrations in Scotland and Wales could impose a requirement that would discriminate against goods entering from another part of the UK. This would mean that the Welsh Government could regulate goods that are produced in Wales, but not goods sold in Welsh markets. This could diminish its ability to pursue legitimate policy aims. The Counsel General and Minister for European Transition described the original Bill UK as a ‘Trojan horse’ which would undermine devolution and damage the competitiveness of Welsh businesses (Miles, 2020).

The Wales Governance Centre and partners agree, finding that the principles in the Internal Market Bill as originally drafted restricted the devolved authorities’ practical capacity to regulate economic activity more than EU laws did, undermining the roles of the Senedd and the Welsh Government (Dougan et al., 2020). Dougan et al. (2020) argue that, according to the draft Bill, the principle of frictionless economic exchange between the four home nations overrides all other public policy aims and objectives, including devolution. The Bill also grants the UK Government new spending powers in various policy areas, including transport infrastructure, that overrides the competencies of the Senedd.

In response to these concerns, the UK Government has accepted a number of changes to the Internal Market Bill. These include a greater tolerance for divergence in standards within common frameworks, that would allow devolved administrations to exempt certain agreed variances in standards from the market access framework (PA Media, 2020). In addition, there are proposed provisions to allow devolved administrations a say in regulations made under the Bill, and also proposes to reinstate public interest exemptions to the mutual recognition principle, which let governments diverge from standards in pursuit of a legitimate public policy aim (House of Lords, 2020). These amendments have not been agreed at the time of publication but press reports indicate that the UK Government will agree them in the Commons (PA Media, 2020).

It is hoped that an ongoing review of intergovernmental relations by the UK Government will provide clarity on how disputes over the application of the market access principles will be resolved.

Alongside the UK government proposals, the four governments of the UK have been developing common frameworks in areas where devolved and returned EU competences intersect, with the stated purpose of protecting the UK internal market. These common frameworks are given a statutory basis in the latest draft of the Internal Market Bill. Both the

Welsh and Scottish Governments have suggested that common frameworks, which may consist of common goals and standards, harmonisation and agreements on mutual recognition across different policy areas, are beneficial and more respectful of devolution.

The Northern Ireland protocol will also have implications for the UK internal market; its implementation will create significant administrative burdens for goods moving from Great Britain to Northern Ireland. A new Trader Support Service has been established to help businesses with customs compliance but the demand for this is likely to be greater than its capacity and it is unclear whether it can effectively scale up before January.

Approximately one third of shipments from Holyhead to Dublin are ultimately destined for Northern Ireland (and vice-versa). Agreement on the implementation of the Northern Ireland Protocol provides some reassurance that goods travelling between Holyhead and Northern Ireland via Dublin will not be subject to tariffs, at least temporarily (Sargeant and Jack, 2020). However in the long term questions remain about whether Northern Ireland goods entering Great Britain through this route will be able to benefit from 'unfettered access' and what customs rules will apply to British goods destinated for Northern Ireland in the future, which could mean that some businesses choose instead to ship directly to Northern Ireland, reducing trade through Holyhead.

Overall, the UK Government's engagement with the devolved nations through negotiations with the EU has been limited; and calls from Scotland, Wales and Northern Ireland for them to be directly involved in the negotiations have not been accepted. This has possibly contributed to some of the dispute about the UK internal market. In contrast, the UK Government's negotiations with the rest of the world have reflected a recognition that devolved administrations are responsible for implementation and the Department for International Trade has welcomed the contributions of the Welsh Government.

## Preparedness and the Coronavirus pandemic

Some sectors are less well prepared for the forthcoming transition than they were for previous Brexit deadlines. This is partly due to the Coronavirus pandemic which has reduced sectors' ability and willingness to increase stocks, and also due to an apparent 'Brexit fatigue' as they incurred costs preparing for previous rounds which turned out to be unnecessary. If there are issues in early 2021, this lack of preparedness would particularly affect sectors which have a greater dependence on seamless border processes, such as the agriculture, automotive and aerospace sectors.

There is a danger that, following the Coronavirus pandemic, the UK and Welsh Governments will be less prepared for the transition and will have a reduced fiscal capacity to shield businesses from short-term disruption. However, in the medium term, wider economic changes stimulated by the Coronavirus pandemic could mitigate against the impact of the European transition and shape the Welsh economy. For instance, there could be promotion of parallel supply chains and ‘surge capacity’, where businesses can switch to Welsh suppliers when global supply chains are affected (International Trade Committee, 2020; Roscoe, 2020). These are already an aspiration for some sectors where supply is critical (such as medical equipment or drugs), and could also be applied in strategic sectors. Combined with preliminary moves to ‘reshore’ production, these could increase the resilience of the Welsh economy and mitigate against the impact of new trade barriers. However, these developments are still largely speculative so should not be relied on.

Individual sectors have concerns and adaptations to make in response to what will be agreed by January 2021. Services firms will face new barriers, regulatory requirements and restrictions constraining their ability to sell to customers based in the EU (Lowe, 2020b). The following section sets out how the sectors identified as key to the Welsh economy anticipate the implications and how they are preparing.

# Key sectors

Many sectors make up the Welsh economy and from these we have selected ‘key’ sectors, each of which represents either a significant contribution to the Welsh economy; a cultural or community importance; a specific contribution to innovation; or a comparative advantage. Analysing the implications of the European transition for these sectors provides an opportunity to check assumptions, to understand key issues and concerns and to consider how the Welsh Government might respond.

**Table 1: Key economic sectors**

| | |
|---|---|
| Aerospace | Financial services |
| Agriculture and food | Life sciences |
| Automotive | Professional business services |
| Compound semiconductors | Steel |
| Cyber security | Tourism |
| Digital and creative goods and services | |

We conducted 18 interviews with representatives from businesses, associations and groups across the sectors. We explored their concerns and priorities for the future trading relationship with the EU and other countries, the extent of preparation by businesses within their sector, and the distinctiveness of the sectors and their concerns in Wales compared to the rest of the UK. We also heard from many interviewees how the ongoing Coronavirus pandemic had affected their sector and the preparedness for future trade relations.

## Aerospace

- Uncertainty around customs delays and declarations should be minimised as due to the international nature of the manufacturing processes these could reduce the competitiveness of the sector.
- It is unclear how long it will take for the Civil Aviation Authority (CAA) to take over the European Aerospace Safety Agency’s (EASA) functions and the impact this will have on companies’ ability to operate in the EU as a result.
- Supporting R&D and innovation in the sector has potential benefits for ecosystem development around hydrogen extraction, civilian drone use and spaceflight. The Welsh Government could play a convening role to support cross-sector innovation.

Wales has a relatively strong aerospace sector (10% of the UK aerospace workforce is based in Wales, which has only 5% of the UK’s population). The Welsh aerospace sector comprises both military and civilian use, as well as ‘emerging flight’ areas including drones and spaceflight, and eight of the ten largest global aerospace and defence companies have a presence in Wales. This presence ranges from minimal to substantial, and includes large employers such as Airbus in Newport and Broughton. The sector has a degree of strategic importance, both as a major employer and as a contributor to national defence. It also offers opportunities for innovation such as the development of Llanbedr Airport for suborbital spaceflight.

The nature of the sector is such that manufacturing and processing are spread across several sites internationally. For instance, Airbus Broughton manufactures civilian aircraft wings, rather than full aircraft. Most aerospace goods are tariff-free under WTO rules, but regulatory alignment and compliance are a concern for the sector. The UK has signalled its intention to leave EASA and to rebuild the capacity of the CAA. The sector is concerned that this will be a long-term programme, possibly taking decades, and that, in the meantime, issues such as mutual recognition of professional qualifications and consistency of standards will need to be addressed.[2] There need to be systems in place to ensure that UK standards do not drop below EU standards, as there are concerns from businesses about achieving

[2] The airline industry has expressed scepticism that the UK will be able to produce an independent set of UK standards. In a Transport Select Committee hearing, Willie Walsh (at the time, CEO of the International Airlines Group) suggested that ‘the expertise that existed within the CAA has long since gone’ and compliance with either EASA or American Federal Aviation Administration rules was more likely (Transport Committee, 2017).

third country airworthiness approval which demonstrates that their products meet EU minimum standards and are therefore approved to produce parts. This is particularly important given the pan-European nature of many aerospace supply chains.

General uncertainty around future trade relationships and regulatory standards has hit confidence in this sector in Wales. The potential for border delays could exacerbate this, particularly if these result in manufacturing delays and subsequent delays in obtaining parts. Furthermore, some companies rely on the rotation of staff across borders and fear that the new immigration regime will make this more difficult.

Overall preparedness is high, and larger actors in the sector feel ready for the end of the transition period. There is some concern about 'Brexit fatigue', particularly in smaller suppliers who may not have the capacity to either ensure constant supply or to deal with new regulatory burdens. A further concern is the time period for adapting to the new customs and trading relationship, with a strong preference for an extended implementation period in the sector.

The Coronavirus pandemic has, unsurprisingly, had a significant and ongoing impact on the aerospace sector. The shock was described as 'particularly savage and deep' compared to previous crises. Production is beginning to resume on a meaningful scale, but the prospect of job losses, reduction in demand and production slowdowns is expected to have a continued impact on sectoral resilience.

Despite this, there is a general sense of optimism about the future of the sector in Wales. Stakeholders point to the vital role Wales and the UK play in global aircraft manufacture as a sign that the sector will not be allowed to fail and that an accommodation will be reached, although this attitude could be risky if the sector uses it as a planning assumption. Wales' small size and comparatively rural composition are viewed as positive for the development of new technologies and industries, including the potential for hydrogen extraction, civilian drone use and spaceflight, all of which could facilitate innovation in other sectors. At the same time, there is a strong existing base of companies which can be supported through existing R&D and innovation programmes. Further financial and advisory support to improve innovation could boost the sector and the Welsh Government could encourage cross-sector innovation by playing a convening role.

## Agriculture and food

- Duty and quota-free trade are essential if businesses are to remain competitive.
- Border delays associated with regulatory border checks and certification for companies exporting fresh produce could be catastrophic.

- Maintaining existing food standards in future trade deals will be critical to ensure Welsh produce remains competitive.
- The transfer of responsibility for farming subsidies provides opportunities for the Welsh Government to support ancillary services, promote more sustainable land use and encourage diversification.

We spoke to organisations representing each of the distinctive parts of this sector, namely agriculture, fisheries and food and drink production. Each has its own priorities and concerns, although there is significant common ground around key issues.

Agriculture, fisheries and food and drink production are regionally and culturally important sectors in Wales, playing an important role in rural communities. Agricultural land in Wales is predominantly pastureland, with only a small proportion considered suitable for arable production. This is a distinctive feature of Welsh agriculture, as arable production tends to be more common in the rest of the UK. Lamb, beef and dairy are the primary goods. Welsh fisheries produce mainly shellfish, crustaceans and molluscs (such as whelk), with quota restrictions and fleet characteristics preventing fishing for other species. Food and drink production employs around 24,500 people in Wales with a wide geographical spread across the country and microbusinesses representing a large part of the sector.

Research by the Wales Centre for Public Policy has highlighted the likely implications of leaving the European Union for the sector. A decline in the economic viability of sheep production is likely, with farm businesses especially vulnerable to market access changes and public funding reductions. This has greater implications for communities in north and west Wales than in the south and east, where more diverse impacts are likely to be felt by dairy, horticultural and other farm types (Dwyer et al., 2018). For fishing communities, a key concern is that the structure of the Welsh fleet means it is ignored in favour of larger fishing interests in other UK nations (Carpenter et al., 2018). All stakeholders were concerned about the loss of frictionless trade and the potential for delays and regulatory barriers at the border. Exports tend to be perishable goods and some have particularly short shelf lives (such as shellfish and dairy) such that delays in processing through customs, or even in reaching the border to begin with, could result in spoilage. Equally, regulatory hurdles such as sanitary control and veterinary checks may cause additional delays at the border. These checks will be necessary with a trade deal and could cause significant issues, particularly for fisheries. Stakeholders also mentioned challenges associated with the need to acquire certification and the need to transport goods to and from customs ports. While some practical issues such as registering fishing vessels as food business operators have been worked out before previous deadlines, there is a sense in the sector that not enough has been done to ease expected regulatory burdens.

Tariff barriers remain a concern, particularly if they are set at a level that makes Welsh exports uncompetitive. Likewise, low tariffs on imports from elsewhere in the world could lead to cheap goods flooding the market and pushing Welsh producers out of business Uncertainty — whether over tariff or non-tariff barriers — will make it difficult to plan production, further harming the sector.

A priority across the sector is to maintain existing food standards in future trade deals. There is a strong and well-publicised concern that potential FTA partners could ask the UK to import goods that do not meet existing food standards. If these imported, lower-standard, goods were produced more cheaply than UK-produced alternatives, it could reduce the price-competitiveness of UK-produced food.

There are opportunities for positive change. Fisheries see the repatriation of fishing quotas as potentially facilitating longer-term diversification and expansion, although this would take time to realise and need careful planning. Nonetheless, there are factors that make a wholesale change in fisheries policy possible: the small role that fisheries management has historically held in the Welsh Government; the ambitious aims of the Well-being of Future Generations Act; the overhaul to management that leaving the EU permits; and the widely held sentiment that Welsh fisheries management is not delivering well in its current form (Carpenter, 2020). Likewise, the transfer of responsibility for farming subsidies to the Welsh Government offers opportunities, although the sector as a whole is opposed to a wholesale move towards providing subsidies for environmental goods.

Domestically, trade barriers may provide import substitution opportunities for some farms, for instance, who may be able to increase sales to domestic buyers who before were purchasing from EU-based producers. Research by Dwyer (2016) suggests this may be more likely for dairy and poultry farmers than beef and lamb.

Ongoing discussions over the shape and extent of new farm support systems need to take into account what the sector sees as the positive economic role farming plays in local communities (for instance, in supporting ancillary services like animal feed companies or vets) as well as promoting more sustainable land use and allowing for diversification where appropriate. Longer-term partnerships between government, food retailers, farmers and commercial lenders to promote stronger business networks and SME infrastructure could also promote resilience in the sector, as well as improve landscape quality and community identity (Dwyer, 2018).

## Automotive

- Tariffs could wipe out some firms' operating margins and there is a risk that businesses will not remain in the UK.

- Businesses may not be adequately prepared for new and complex standards and therefore may not be able to comply with certification processes.
- The Welsh Government could support the sector by clarifying what will be necessary to comply with the new rules and standards.

The automotive industry in Wales is relatively diverse and includes assembly plants, as well as suppliers who provide parts and components. These suppliers are grouped into tier 1 suppliers who tend to be more specialist; and tier 2 suppliers who tend to provide smaller but more general parts. There are around 15,000 people employed in the industry and its supply chain, which is predominantly located in South Wales.

The automotive industry is reasonably exposed to the consequences of a new trading relationship. While the sector exports over 80% of production globally, and over half of this is within Europe, imports are larger than exports due to the import of components for assembly (Wells, 2020). This aspect of production in the sector presents particular challenges for rules of origin. In its FTAs, the EU usually requires that 55-60% of a vehicle is produced locally for it to be considered European and therefore exempt from import tariffs. However as hybrid and electric vehicle components are both costly and imported, these vehicles could struggle to meet such a threshold.

Other non-tariff barriers have the potential to increase costs. For example, customs declarations and difficulties in obtaining highly-regulated and safety-critical goods (such as brake calibres) could make manufacturing more difficult in Wales. Failure to comply with standards and certification could result in large penalties and there is a concern that decisions will not be taken in time for the sector to adequately prepare. Different certifications, for example type approval, now for both the EU and UK markets will also be highly costly and burdensome: mutual recognition in this regard is therefore very important. Transport costs are also a major cost and consequently markets that are closer to home are more profitable. Tariffs on trade between the EU and UK are also a large barrier to trade; if introduced they have the potential to wipe out operating margins and lead to a reduction in exports and imports.[3] This would create a significant challenge for the viability of the sector in Wales.

There are concerns about the longer-term viability of the sector as some manufacturers do regular business with the EU, and may have previously chosen to operate in Wales due to it providing European market access. Although the UK is an important market in Europe, it is vulnerable to new and emerging companies: many EU businesses will be in a stronger

[3] The EU levies an MFN tariff of 10% on imported finished cars and 4% on imported components

position to win new contracts, the effects of which are likely to be felt over time (Wells, 2020). This will be compounded if the trade agreement does not allow for foreign inputs sourced from shared free trade agreement partners – for instance, Japan – to be treated as British for the purpose of meeting its rules of origin requirements – so called extended cumulation.

The uncertainty has increased the perceived risk of purchasing from UK businesses and it has also resulted in underinvestment in the sector since 2016. Production is done on a just in time basis as it is expensive to hold spare stock, however to respond to uncertainty emergency warehousing and stockpiling has been explored. While this is an option for the sector, it increases the cost of production.

The Coronavirus pandemic has left many companies with cashflow problems, limiting the extent to which stockpiling goods before December 31st can be used as a strategy to avoid delays at the border. The pandemic has also caused a collapse in demand for new vehicles and has resulted in spare capacity in the global manufacturing system; compounding the stress on the sector. These factors combined may make remaining in the UK an unattractive proposition for investment.

In the short-term, the sector needs to clearly understand the impact of new rules and regulations, and how to comply with them. The Welsh Government could play a role in clarifying what will be necessary to comply with the new rules, potentially working with UK Government to produce short and accessible documents that set these out.

In the medium term, developing a vision for the automotive industry of the future is important, specifically supporting new business models and the technological change that is needed. For example, continuing to support the development of Welsh capacity to manufacture batteries will attract other investments throughout the supply chain. The development of this vision would need to be supported by an enhanced understanding of the sector in Wales: including mapping its suppliers, understanding the risks and vulnerabilities, and future technology needs (Wells, 2020).

## Compound semiconductors

- There is a need to mitigate the losses of research collaboration that is reliant on EU funding.
- Ensuring the long-term stability and funding of the sector is a general priority. In particular, targeted investment by the Welsh Government in prototyping would support the growth of Welsh industry.

Wales is a global centre for compound semiconductors. The recent establishment of the Compound Semiconductor Cluster (CSC) represents an attempt to harmonise existing operations across a range of companies, to facilitate greater co-operation and to leverage investment. The trade priorities of this sector are distinctive, with a much greater focus on research collaboration and making the most of new possibilities for state aid than in other sectors.

The sector generally feels well-prepared for departure from the EU and has taken steps to mitigate some anticipated outcomes, for instance by reshoring distribution points for raw materials from the EU to the UK. Most exports are to countries outside the EU, so most organisations are familiar with customs checks and other regulatory processes and already have processes and systems in place.

The sector is connected to international research clusters, notably through the EU Horizon 2020 scheme. Since the referendum, there has been a noticeable reduction in the role given to UK partners in these projects (including moving them from partner to subcontractor status) and ongoing collaboration after the end of the transition period is uncertain. The loss of research collaboration, and the funding that accompanies it, will be felt keenly in this and other high-technology sectors.

This is particularly relevant given rules about public investment. ‘Technology readiness levels’ (TRLs) are often used to indicate the maturity of a particular innovation: TRLs 1-3 represents proof of concept through to patent; TRLs 4-6 are prototype stages; and TRLs 7-9 represent the pre-production and production phase. State aid rules (as well as Horizon 2020 conditions) currently limit public investment to TRLs 1-3, and there is little outside funding for TRLs 4-9. This puts UK and EU production at a competitive disadvantage: China for instance, funds little work in TRLs 1-3 (drawing instead on Western research) but puts extensive funding into TRLs 4-9, allowing it to easily expand its industry.

There is no WTO provision that would limit public investment to TRLs 1-3; this is a choice made by EU state aid rules. The sector would like to see more public financing through to the production phase. This would benefit the Welsh economy, particularly as the ‘catapult’ launched by the CSC is now in place, accelerating production from proof of concept to the production phase (i.e. TRLs 4-6). Such investment would help to avoid the situation where innovations are patented but unable to find investment through the pre-production phase. This will require targeted investment by the Welsh and UK Governments: at present, a temporary waiver of state aid rules for compound semiconductors has not attracted substantial additional funding from the UK Government.

## Cyber security

- Due to the complexity of the sector, the Welsh Government could facilitate the defining of the sector to allow for a more accurate assessment of its needs.

- Changes from EU to UK data regulations will impact how the sector is able to use and access data, with potential implications for public services. Clarity is needed on if and how data regulations may change.
- SMEs are supported by the Welsh Government to network with purchasers, but more support is needed to scale up production, such as advice on securing additional investment.

Wales has a world-class and multifaceted cyber security sector that includes military and civilian applications. In part, this is due to favourable geography, with GCHQ and military cyber security operations based in South West England; as well as a cluster in South Wales with large government departments such as the DVLA headquartered there. This is matched by a relatively large sector in Wales including 60 SMEs identified as specialising in cyber security, and larger players including Thales and Airbus (Burnap, 2020). The size of the sector is larger than would be expected in a nation of Wales' size and there are some grounds to believe that a 'critical mass' is present, supporting further growth opportunities.

For this to be effective, defining the industry and its scope is important but this has not yet been effectively done. Better understanding the industry would allow for a more accurate assessment of the sector's profile and needs, from employment to investment. The sector feels that the Welsh Government could be doing more to understand and support its development; collecting and using data about the sector better could facilitate this aim.

The cyber security sector in Wales and the UK is in a reasonably strong position in terms of the European transition. The UK has longstanding good relations with other countries and institutions, and its investment and programmes are respected around the world (Stevens and O'Brien, 2019). Many aspects of cyber security co-operation between the UK and the rest of the world will continue irrespective of ongoing trade negotiations, although the UK departure from common EU crime frameworks will make this more difficult. Nonetheless, there are still important issues to be negotiated. A priority will be data storage and access. Changes from EU to UK regulations, particularly GDPR, will impact how the sector is able to use and access data, which could have implications for the work of the sector and also on services including health care and defence. Clarity on whether, and how, data regulations may change for the UK after the transition will be important and could affect future international collaboration. Likewise, the industry may face vulnerabilities if supply chains form in regions with less stringent information assurance and security protocols, which will need careful auditing (Ascentor, 2020).

The biggest concern appears to be the needs of SMEs in the sector. Microbusinesses face particular difficulties scaling up. While the Welsh Government has facilitated SME contact with purchasers at events such as trade shows, there remains insufficient support to allow SMEs to scale up production in order to increase their exports. The Welsh Government could provide advice on securing additional investment or provide grants itself to enable sectoral growth.

## Digital and creative goods and services

- Insufficient attention to intellectual property, data and migration in a future trade deal could undermine the ability of creators to control their work. This could weaken the sector's ability to operate in Europe.
- Changes to the immigration system will not provide the flexibility needed by the sector to employ freelancers.
- The Welsh Government could support a mutual recognitions framework to maintain the rights of temporary workers from the EU and to support continued access to EU markets.

The creative sector covers a large range of services including those that might not be traditionally considered as 'creative' such as architecture or video games. It is estimated that 56,000 people are employed in the sector, with an annual turnover of £2.2 billion (Creative Wales, 2020). Many large employers including media and production companies are based in Cardiff and the wider South Wales region, although the sector is represented throughout Wales: for instance, publishers such as Y Lolfa are based in Ceredigion. There is some intersection with other industries, including tourism and the heritage sector.

The sector has been particularly adversely affected by the Coronavirus pandemic, with large-scale job losses and further potential closures. A perceived lack of governmental support for the sector has exacerbated this situation. This has led to preparation for the European transition falling well down the priority list.

The protection of intellectual property (IP), and workers' mobility are key concerns for the sector in future trade deals. The UK currently has excellent IP rights that preserve the ideas and property of creative industries and individuals and it is crucial that these are not diluted in a trade deal. The concern relates less to explicit decisions by the UK Government but more to IP rights not being given sufficient attention in a future free trade agreement (House of Commons Digital, Culture, Media and Sport Committee, 2018). This could lead to a perceived or actual loss of protections, affecting the ability of creators to control their work. Dilution would also weaken the sector's ability to operate in Europe, particularly where there are security concerns about the UK's approach to data transfer.

Creative industries often rely on skilled workers from across Europe, and changes to the immigration system might make it more difficult for employees to work in Britain. In particular, proposed visas for freelancers would require either a single 28-day engagement or a new piece of work every 14 days. Neither of which would capture the way in which the sector uses temporary workers and freelancers, which relies on flexibility to carry out small or large projects with a range of employers, lasting for varying lengths of time. As parts of the sector make use of European freelancers where there are specialist and niche skills, this could have an impact. The removal of automatic recognition of European qualifications would also impact on the ability of the sector to benefit from EU-based talent.

Building skills at home to compensate for the loss of skilled immigrants could alleviate some of these concerns over time, as well as providing wider economic and individual benefits. However, this will not reduce the impact on other parts of the creative industries which benefit from the ability to carry out short-term engagements in the EU at present. For instance, bands on tour or artists exhibiting work might rely financially on overseas engagements and could be negatively affected by any prospective loss of short-term movement rights.

Continued access to European markets and talent (or access to the UK market for EU individuals and firms) will require a degree of co-operation and mutual recognition of professional qualifications that will need to be agreed on a national level. The Welsh Government could support the establishment of a mutual recognitions framework to facilitate this.

## Financial services and professional business services

- Although the sector is generally well-prepared, services which require a physical presence in EU countries or local certification will be affected. Plans have been made to navigate short term visa rules by establishing European bases.
- Ensuring convergence with the EU on data regulations would provide assurances to firms working across borders.

The financial services sector in Wales features one FTSE 100 company, Admiral, and a mix of smaller banks and providers (including Hodge Bank and the Development Bank of Wales). Professional business service companies in Wales include Deloitte, which has a shared services hub in Cardiff, as well as some smaller firms. As the issues for these sectors are closely related, we have combined them in our analysis, but it should be noted that there are areas of difference as well as overlap.

Parts of Wales are extremely vulnerable if the transition is difficult for these sectors. Analysis by the Centre for Cities suggests that 81% of Cardiff’s service exports, and 54% of its total exports, are financial services (Breach and Piazza, 2018). This is the largest proportion of service exports and the second highest proportion of total exports for financial services of any UK city.

These sectors feel themselves generally well-prepared for the impact of exiting the transition period, however. There is a sense that for many services transitioning to the new EU-UK relationship will be initially bumpy, but ultimately survivable, particularly in a post-Coronavirus context where remote working is considered more feasible. The financial services sector in particular has been planning for a range of scenarios and is considered one of the more 'mature' sectors in terms of readiness (Deloitte, 2019a).

One reason for this preparedness is that there are a number of foreseen consequences of exiting the transition period. For instance, current 'passporting' arrangements which allow a financial services provider to operate in another EU nation with minimal barriers are highly likely to end, meaning that it could become more difficult to Welsh businesses to operate in the EU. Many companies have therefore established bases in Europe in order to meet these anticipated new requirements.

Some professions and services may be regulated by individual EU member states if they do not form part of any UK-EU trade deal (Deloitte, 2019b). While the sector is already familiar with specific state requirements from working with non-EU countries, these could cause short-term difficulties, particularly where requirements differ between EU nations. Regulations might require a physical corporate presence in the country where work is undertaken, or local certification.

This will be complicated by new immigration rules which seem to prevent short-term work assignments abroad. This is separate from longer-term immigration, which the sector is not overly concerned about as it largely employs workers with high qualifications and salaries.

The portability of data and ensuring data adequacy will be an issue, particularly if UK regulations diverge from EU regulations under GDPR or if data adequacy is not agreed as part of a trade deal. It may be the case that data will need to be stored or accessed only in the country where work is undertaken, which will have an impact on exporting businesses.

There is a sense that services will not feature prominently in any EU-UK trade deal, and the sector has planned accordingly. This could have a long-term impact on the presence of some service providers, but it was not felt to be a pressing issue in the medium-term as the industry is well-established in the UK.

## Life sciences

- Facilitating regulatory compliance would ensure that the UK remains part of pan-European systems, maintaining the viability of Welsh firms.
- Domestic procurement could strengthen the sector during the Coronavirus pandemic and mitigate export losses.

- Mutual recognition agreements as part of FTAs will be critical for the regulation of medicines.

Wales' life science sector is relatively large, with a significant manufacturing presence, including in medical technology and diagnostics, although there is no significant 'big pharma' presence in Wales. Around 11,000 people are employed in the sector in Wales. Approximately two fifths of UK pharma exports in 2019 went directly to the EU and four fifths of imports are from the EU. The sector is dominated by medium- to large-scale firms, most of which are owned and headquartered outside Wales. Life sciences is a highly regulated sector, with high barriers to entry; therefore regulatory compliance is of great importance to the sector.

As most of the sector already exports outside the EU and as all markets require compliance with local standards, UK-EU divergence in standards alone is unlikely to present a major barrier. However, compliance with EU regulations will undoubtedly be more difficult post-transition. European clinical trials, for example, must be held in the EU, with drugs manufactured in the EU and signed off by an EU-certified Qualified Person. This would require UK businesses to have an EU base, which would not be sustainable in the long term and may, in turn, lead to a reduction in the size of the sector in Wales.

Mutual recognition agreements for medicines and devices will be very important. Without them, everything will need to be retested when it is exported (Greville, 2020). There is a shortage in qualified notified bodies to certify that medical devices have met the required EU standards, with the British Standards Institution being the only remaining body (which has had to set up a base in the Netherlands to remain certified). They are currently experiencing delays due to the volume of activity in the sector. While backup certification is currently available from the Medicines and Healthcare Products Regulatory Agency, as things stand their assessments will not be recognised by the EU after the transition period ends.

Other broad priorities of a free trade agreement for the sector are supply of and access to medicines, safeguarding high global standards, and ensuring that the UK remains a global leader in the sector. Tariffs are not a challenge for the sector as most medicines are covered by zero tariffs under the WTO Pharmaceutical Agreement and where components incur tariffs the impact is minor (Greville, 2020).

The sector's importance has been highlighted by the Coronavirus pandemic and to remain sustainable it needs to be able to export. Facilitating regulatory compliance and ensuring that the UK remains, as much as possible, part of pan-European medical regulatory systems would help to maintain its viability. The Welsh Government could assist businesses in understanding and implementing any new EU regulations and lobbying for continued membership of pan-EU regulatory systems. The development of parallel supply chains, as proposed for some sectors, would however not necessarily present a solution for pharmaceuticals as onshoring would likely result in prices being too high for the NHS (Greville, 2020).

While life sciences will always be reliant on exports, more could be done domestically through public procurement to strengthen Welsh businesses. There are businesses who could produce various pieces of equipment from PPE to diagnostic items and specialist reagents. Competition between countries and procurement issues have limited domestic businesses' success in the pandemic; this could be rectified throughout the winter and next year. Also adjusting state aid to make it more specific could support advanced manufacturing in the sector. This will be particularly beneficial in the event of a no deal as patenting costs are expected to increase.

## Steel

- Steel is a prominent sector in Wales and changes to trading relationships could have a disproportionate effect on the Welsh economy, employment and income in parts of the country.
- Uncertainty over future tariffs is already affecting demand. As well as the EU market, the USA and Turkey are key trading partners.
- The Welsh Government already has domestic strategies to promote the use of Welsh and UK steel and these could be strengthened across the UK.

Steel is a prominent, export-led sector in Wales and the UK industry has a disproportionate presence in Wales, with over half of UK steel produced in Wales. Aside from Tata Steel in Port Talbot, there are sites in Cardiff, Newport and Wrexham, as well as further Tata sites in Llanwern and Llanelli. Steelworks are generally large employers, offering high-paid, high-skilled work, often in areas with below average wages. The sector directly employs over 7000 in Wales and indirectly employs between 10,000 and 20,000. Although UK steel production has declined, domestically-produced steel remains strategically important and could contribute to wider development including supporting the growth of decarbonised industries. The sector does however need substantial investment to be sustained and is expected to be impacted by a reduction in demand from other sectors, notably the automotive sector and EU customers moving to other suppliers (Ringwald-Wildman, 2020).

Uncertainty over tariffs is a major concern. There is a possibility that without a deal 25% tariffs could be imposed by the EU, which would have a long-term knock-on effect on the sector, potentially making some plants unviable. Even if these tariffs are only temporary, customers are expected to go to other EU-based providers. Border checks would be manageable, but could negatively impact consumer demand. A reduction in demand is already being experienced in response to the possibility of tariffs being implemented in early

2021. Due to the nature of the industry, reducing production at sites such as Port Talbot is difficult and risks a build-up of product that cannot be sold. There is over capacity in the industry and antidumping measures have been taken by the EU. This will determine future market prices which are expected to reduce. In response to this oversupply, future quotas levied by the EU against UK steel are possible (Ringwald-Wildman, 2020).

Outside the EU, the USA and Turkey are major markets for steel. There is currently a 25% tariff on exports to the US and the sector would like to see negotiations on this resolved prior to any FTA being signed. Without an FTA with the EU, there may also be 15% tariffs levied on exports to Turkey which is linked to the EU by a customs union agreement. This would make UK steel uncompetitive there. As steel has high transport costs, closer to home markets are more profitable.

The Welsh Government was the first UK nation to sign the UK Steel Charter, aimed at maximising opportunities for UK steel producers by promoting the procurement of their steel for major projects. However, financing remains a contentious issue. Project Birch funding decisions as a result of the pandemic have been delayed, and there is ongoing uncertainty over Tata sites in Wales.

Expanded promotion of domestic use of UK steel offers some possible mitigation against future tariffs and the Welsh Government could increase the scope of its existing procurement preference for UK steel by requesting businesses to increase the use of UK steel in their supply chains. Also considering the placement of steel in the Welsh Government's industrial strategy and working with the sector to meet future demands for public sector investment, for example in infrastructure and defence, would support the sector. While this could increase domestic demand and supply in response, alone it is not likely to replace a reliance on exports. It will therefore be important to ensure that UK steel is not disadvantaged in future FTAs.

## Tourism

- The sector is predominantly made up of SMEs, for whom the loss of direct EU investment will have a negative effect.
- The Welsh Government should work together with tourism and agriculture representatives to encourage collaboration around agricultural diversification into tourism.

Wales' tourist economy is predominantly made up of microbusinesses and SMEs, with few larger companies. The industry has a wide geographical spread across Wales, although it is particularly prominent in rural areas. Few details have been released, but an anticipated reduction in support available as the Shared Prosperity Fund is replaced, alongside the loss of direct EU investment will affect the sector as many rural microbusinesses have benefited from European structural funds. The sector is eager that any replacement funds are targeted towards these businesses, which may also be struggling as a result of the Coronavirus pandemic.

At present, Wales attracts mainly domestic tourists, with overseas visitors making up a small proportion of visitors: from January to June 2019, there were 4.8 million overnight and 37.7 million day visits from British residents, and 446,000 trips from overseas visitors recorded (Welsh Government 2019b). Overall, overseas visitors tend to spend proportionally more. As overseas visitor numbers are proportionally low as a share of visitors to the UK, a key challenge for the sector will be to continue to promote the Welsh ‘brand’ as a distinctive UK destination. In part this will require better marketing of Wales as a destination, but it could also mean working to attract more inward investment.

The dominance of the sector by microbusinesses, often family-run, and with small numbers of employees suggests that labour shortages resulting from the end of free movement will be less of a concern in Wales than elsewhere in the UK, although there will still be an impact at larger sites including hotels. Some of this may be mitigated in the short term by the economic consequences of the Coronavirus pandemic, which could increase the number of UK workers willing to take a position in the tourist industry.

Border checks and barriers are expected to cause problems. EU citizens often fly on national identity cards rather than passports and if these are no longer accepted for entry into the UK they may choose to travel elsewhere. Cruise ships docking in Wales will require border infrastructure for up to 4,000 guests at a time; and this has not yet been built.

Destination management will be important if domestic visitor numbers increase, particularly where tourist numbers cause pressure on rural communities, many of which do not have the infrastructure to cope with large numbers of tourists. The sector is concerned that changes to farm subsidies will cause large numbers of farmers to diversify into tourism, causing oversupply or even offering an inferior product and damaging the Welsh tourism brand. This will need careful management, although the sector is eager to work alongside agriculture to resolve any issues. The Welsh Government could facilitate a dialogue between representative groups to ensure that the aims of both sectors are complementary, rather than in competition with each other.

# Conclusions and recommendations

We found that many of the sectors' concerns are shared across the UK, with some notable exceptions. Aerospace and steel make relatively larger contributions to the Welsh economy than they do to the UK as a whole, and therefore are important sectors in any trade deal. Other sectors have a distinctive profile, such as agriculture and fisheries, where differences in geography, soil quality and the makeup of the fishing fleet and quota allocations leads to differences in produce in Wales compared to the rest of the UK.

Non-tariff barriers are a concern and could have a substantial impact. These will be more problematic for businesses in some sectors than others, for example exporting companies in the agricultural sector are likely to face additional burdens, although the inspection requirements for fresh produce are still unknown.

For sectors producing goods comprising different components, such as the automotive, aerospace and steel sectors, non-tariff barriers will cause delays, complications and incur additional costs. Businesses will need to fill out declarations and demonstrate compliance with standards and rules of origin. Some businesses may still produce goods that comply with EU standards but the higher standards will not be recognised or certified because of the UK Government's desire for divergence and regulatory independence. For example, aerospace is hugely dependent on the regulatory structures of the EASA membership body which is due to be supplanted by a repatriation of powers to the CAA. However, the timeline for this is uncertain and the sector is unclear about any interim arrangements.

These issues will present technological and logistical challenges for Welsh ports who provide a key connection between Ireland, Wales and the rest of the UK. Holyhead is the UK's second largest roll-on roll-off port where, as new handling checks will require different infrastructure, delays risk affecting trade flows as the needs of suppliers depending on just-in-time logistics cannot be met. However, the extent to which new checks will actually occur or shipments will be waived through is uncertain, raising questions about the extent of investment needed to adapt. Confusion over the long-term impact of the Northern Ireland protocol and the circumstances in which goods would enter Northern Ireland through Dublin exacerbates this uncertainty.

Declining investment is a concern for most sectors, either as a consequence of EU funding withdrawals or doubts about future UK/Welsh investment. Some sectors, such as agriculture and tourism, are predominantly made up of SMEs and will need support, particularly where

European structural funds have been relied on in the past. Investment and support for R&D and innovation in sectors such as aerospace and steel could have substantial benefits for decarbonisation and the development of supplier ecosystems. Without such investment these potential benefits will be lost.

International agreements do however present some opportunities for Welsh industry. Easier access to the US market brings opportunities for Welsh firms, alongside the well-publicised threats. For example, if the United States removed barriers to importing UK lamb it could benefit Welsh agriculture. Where sectors have good connections with the non-EU trading partners, such as life sciences and aerospace, these should be maintained and strengthened.

The Welsh Government, the Scottish Government and experts have repeatedly highlighted the importance of agreeing common frameworks across the UK to address issues on standards and regulatory harmonisation. This review suggests that this should remain an ongoing priority to maintain the rights of the Senedd and the Welsh Government to control economic activity in Wales.

All efforts should also be made to either secure a UK-EU trade deal or to put in place temporary arrangements that extend or secure an effective transition. A deal of (almost) any type would be better than no deal at all for sectors such as agriculture and fisheries. The Comprehensive Economic and Trade Agreement (CETA) agreement between the EU and Canada reduced inspections on products of animal origin. The EU's sanitary and phytosanitary agreement with New Zealand removed inspections on products of animal origin in practice. In the absence of confirmed details, Welsh firms should still be concerned about the potential for inspections, and the Welsh Government should continue its push for clarity.

There will be long-term implications of the UK exiting the EU, and these will be additional to that of the Coronavirus pandemic. The Coronavirus pandemic has meant that both the governments of the four nations have had less available capacity to understand and respond to what the future relationship between the UK and other nations looks like. In the short-term there will be a period of significant disruption and in the longer term, ongoing adjustment will be necessary. How well sectors and business are equipped and able to respond will be crucial for both their survival and success.

In response to these factors, we recommend that the Welsh Government undertake the following measures:

- Guide businesses in the application of regulations, including those governing data usage and storage.

- Encourage reskilling and increased employment in customs intermediaries, digital infrastructure, logistical and business support services to meet the increased demand for support from businesses.
- Continue to seek a beneficial mutual recognition framework, covering qualifications and conformity assessment procedures – as part of any free trade agreement.
- Maintain emergency funding to provide support for businesses affected by border delays in sectors which have a greater dependence on seamless border processes, such as agriculture and fisheries, automotive, life sciences and aerospace.
- Map trade flows and how these will change as a result of the requirements of the Northern Ireland protocol to highlight the implications for the Holyhead-Dublin route and general port activity and preparedness. This could be complemented by individual case studies and stories, to demonstrate the actual issues that businesses will face if issues around customs and regulations are not resolved.

We recommend the following measures aimed at supporting the resilience of the Welsh economy in the medium term are undertaken:

- Encourage collaboration between sector representatives around agricultural diversification into tourism.
- Encourage investment in R&D and in the technology needed for the future. This could be used to enhance cross-sector innovation in sectors such as aerospace and steel to develop supplier ecosystems to contribute to decarbonisation.
- Target state aid to increase the competitiveness of sectors and strengthen existing procurement strategies to promote the use of Welsh goods and services across the UK.

# References

Ascentor. (2020). **Cutting through the confusion: Cyber security after Brexit.** Retrieved from: **https://www.ascentor.co.uk/2020/02/cybersecurity-after-brexit/**

Breach, A., and Piazza, G. (2018). **London Links: What role do financial and professional services play in British cities, beyond just London?** Centre for Cities. Retrieved from **https://www.centreforcities.org/publication/london-links/**

Burnap, P. (2020). **The Future of Cybersecurity in Wales.** Business News Wales. Retrieved from: **https://businessnewswales.com/the-future-of-cybersecurity-in-wales/**

Carpenter, G. (2018). **Implications of Brexit for fishing opportunities in Wales**. Wales Centre for Public Policy. Retrieved from: **https://www.wcpp.org.uk/publication/implications-of-brexit-for-fishing-opportunities-in-wales/**

Carpenter, G. (2020). **Policy options for Welsh fishing opportunities**. Wales Centre for Public Policy. Retrieved from: **https://www.wcpp.org.uk/publication/policy-options-for-welsh-fishing-opportunities/**

Creative Wales. (2020). **Creative Wales Homepage.** Retrieved from: **https://www.wales.com/creative-wales**

Deloitte. (2019a). **Brexit Industry Insights: Banking**. Retrieved from **https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/international-markets/deloitte-uk-brexit-industry-insights-banking-final.pdf**

Deloitte. (2019b). **Brexit Industry Insights: Professional and Business Services.** Retrieved from **https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/international-markets/deloitte-uk-brexit-insights-professional-business-services.pdf**

Dougan, M., Hayward, K., Hunt, J., McEwen, N., McHarg, A. and Wincott, D. (2020). **UK Internal Market Bill, Devolution and the Union**. Wales Governance Centre, Centre on Constitutional Change and UK in a Changing Europe. Retrieved from: **https://www.cardiff.ac.uk/__data/assets/pdf_file/0004/2468038/UK-INTERNAL-MARKET-BILL,-DEVOLUTION-AND-THE-UNION-4.pdf**

Dwyer, J. (2018). **The implications of Brexit for agriculture, rural areas and land use in Wales**. Wales Centre for Public Policy. Retrieved from:

**https://www.wcpp.org.uk/publication/the-implications-of-brexit-for-agriculture-rural-areas-and-land-use-in-wales/**

Greville, R. (2020). Welsh Affairs Committee: oral evidence. UK Parliament. Retrieved from: **https://committees.parliament.uk/oralevidence/1015/html/**

House of Commons Digital, Culture, Media and Sport Committee. (2018). **The potential impact of Brexit on the creative industries, tourism and the digital single market: Government Response to the Committee's Second Report of Session 2017—19**. Retrieved from: **https://publications.parliament.uk/pa/cm201719/cmselect/cmcumeds/1141/1141.pdf**

House of Lords. (2020). **United Kingdom Internal Market Bill: Lords Non-Insistence and Amendments in Lieu**. UK Parliament. Retrieved from **https://publications.parliament.uk/pa/bills/cbill/58-01/0234/200234.pdf**

International Trade Committee. (2020). **The COVID-19 pandemic and international trade**: **First Report of Session 2019–21**. House of Commons 29 July 2020. Retrieved from: https://publications.parliament.uk/pa/cm5801/cmselect/cmintrade/286/28602.htm

Lowe, S. (2020). **Priorities for a global Britain**. Centre for European Reform. Retrieved from: **https://www.cer.eu/publications/archive/bulletin-article/2020/priorities-global-britain**

Lowe, S. (2020b). **Five reasons why even a basic EU-UK trade deal is better than nothing**. Centre for European Reform. Retrieved from: **https://www.cer.eu/insights/five-reasons-why-even-basic-eu-uk-trade-deal-better-nothing**

Lydgate, E., Anthony, C. and Millstone, E. (2019). **Destruction of the union: too high a price to pay for a US trade agreement**. UK Trade Observatory. Retrieved from: **https://blogs.sussex.ac.uk/uktpo/publications/destruction-of-the-union-too-high-a-price-to-pay-for-a-us-trade-agreement/**

Miles, J. (2020). **A trojan horse**. Institute for Welsh Affairs. Retrieved from: **https://www.iwa.wales/agenda/2020/08/a-trojan-horse/**

Office for National Statistics (2020). **Geographical breakdown of the current account**. Retrieved from: **https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/9geographicalbreakdownofthecurrentaccountthepinkbook2016**

PA Media. (2020). **Government retreat on UK internal market bill ends Lords stand-off.** The Guardian, 15 December 2020. Retrieved from

**https://www.theguardian.com/politics/2020/dec/15/government-retreat-on-uk-internal-market-bill-ends-lords-stand-off**

Ringwald-Wildman, K. (2020). Welsh Affairs Committee: oral evidence. UK Parliament. Retrieved from: **https://committees.parliament.uk/oralevidence/1015/html/**

Roscoe, S. (2020). **The future of UK supply chains in a disrupted world**. LSE Politics and Policy. Retrieved from: https://blogs.lse.ac.uk/businessreview/2020/05/19/the-future-of-uk-supply-chains-in-a-disrupted-world-brexit-and-covid-19/

Sargeant, J and Jack, M.T. (2020). **Northern Ireland protocol: agreement in the UK-EU Joint Committee**. Institute for Government. Retrieved from **https://www.instituteforgovernment.org.uk/explainers/northern-ireland-protocol-joint-committee**

Stevens, T. and O'Brien, K. (2019). **Brexit and cyber security**. The RUSI Journal 164 (3): 22-30

Transport Committee. (2017). **Oral evidence: Aviation and Brexit, HC 531**. UK Parliament. Retrieved from **http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/aviation-and-brexit/oral/72522.html**

UK Government (2020). **Free trade**. Retrieved from: **https://www.gov.uk/business-and-industry/free-trade**

Ward, M (2019). **Statistics on UK-EU trade**. House of Commons Library Briefing Paper, number 7851. Retrieved from: **https://commonslibrary.parliament.uk/research-briefings/cbp-7851/**

Wells, P. (2020). Welsh Affairs Committee: oral evidence. UK Parliament. Retrieved from: **https://committees.parliament.uk/oralevidence/1015/html/**

Welsh Government (2019a). **International trade policy**. Retrieved from: **https://gov.wales/international-trade-policy**

Welsh Government. (2019b). **Wales Tourism Performance Report: January to June 2019.** Retrieved from: **https://gov.wales/sites/default/files/statistics-and-research/2019-11/wales-tourism-performance-january-june-2019-828.pdf**

Welsh Government (2020). **UK/EU future relationship negotiating priorities**. Retrieved from: **https://gov.wales/written-statement-uk-eu-future-relationship-negotiating-priorities**

## Acknowledgements

The authors would like to thank Professor Sangeeta Khorana, Samuel Lowe and Jessica Sargeant for their contributions. The authors are solely responsible for any errors or omissions.

## Author Details

**Dr Craig Johnson** is a Research Associate at the Wales Centre for Public Policy.

**Dr Jack Price** is a Research Officer at the Wales Centre for Public Policy.

**Dr Helen Tilley** is a Senior Research Fellow at the Wales Centre for Public Policy.

For further information please contact:
**Dr Craig Johnson**
Wales Centre for Public Policy
+44 (0) 29 2087 5345
**info@wcpp.org.uk**



Wales Centre for Public Policy
Canolfan Polisi Cyhoeddus Cymru